SEQUENCE LISTING

<110> Brookhaven Science Associates
Anderson, Carl W
Connelly, Margery A

<120> DNA-PK Assay

<130> BSA 01-02

<140> US 09/695,437
<141> 2000-10-24

<150> US 08/398,139
<151> 1995-03-03

<150> 08/132,284
<151> 1993-10-06

<160> 64

<170> PatentIn version 3.1

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<223> Human p53 residues 1-28

<400> 1

Met Glu Glu Pro Gln Ser Asp Pro Ser Val Glu Pro Pro Leu Ser Gln
1 5 10 15

Glu Thr Phe Ser Asp Leu Trp Lys Leu Leu Pro Glu
20 25

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<213> Musca domestica

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<400> 2

Met Glu Glu Ser Gln Ser Asp Ile Ser Leu Glu Leu Pro Leu Ser Gln
1 5 10 15

Glu Thr Phe Ser Gly Leu Trp Lys Leu Leu Pro Pro
20 25

<210> 3
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<213> Musca domestica

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<400> 3

Met Glu Glu Ser Gln Ser Asp Ile Ser Leu Glu Leu Pro Tyr Lys Lys
1 5 10 15

<210> 4
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<220>
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<223> Human p53 residues 1-24

<400> 4

Met Glu Glu Pro Gln Ser Asp Pro Ser Val Glu Pro Pro Leu Ser Gln
1 5 10 15

Glu Thr Phe Ser Asp Leu Trp Lys Lys
20 25

<210> 5
<211> 25
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<223> Human p53 residues 1-24; S15A substitution

<400> 5

Met Glu Glu Pro Gln Ser Asp Pro Ser Val Glu Pro Pro Leu Ala Gln
1 5 10 15

Glu Thr Phe Ser Asp Leu Trp Lys Lys
20 25

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<211> 18
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Asn Asn Val Leu Ser Pro Leu Pro Ser Gln Ala Met Asp Asp Leu Met
1 5 10 15

Lys Lys

<210> 7
<211> 16
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<223> Human p53 residues 160-175

<400> 7

Met Ala Ile Tyr Lys Gln Ser Gln His Met Thr Glu Val Val Arg Arg
1 5 10 15

<210> 8
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<213> Homo sapiens

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<223> Human p53 residues 11-24

<400> 8

Glu Pro Pro Leu Ser Gln Glu Thr Phe Ser Asp Leu Trp Lys Lys
1 5 10 15

<210> 9
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<213> Homo sapiens

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<223> Human p53 residues 11-19

<400> 9

Glu Pro Pro Leu Ser Gln Glu Thr Phe Lys Lys
1 5 10

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<213> Homo sapiens

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<223> Human p53 residues 11-21

<400> 10

Glu Pro Pro Leu Ser Gln Glu Thr Phe Ser Asp Lys Lys
1 5 10

<210> 11
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<213> Homo sapiens

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<223> Human p53 residues 11-24:T18A and S20A substitutions

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Glu Pro Pro Leu Ser Gln Glu Ala Phe Ala Asp Leu Trp Lys Lys
1 5 10 15

<210> 12
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<212> PRT
<213> Homo sapiens

<220>
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<223> Human p53 residues 11-24:T18A and S20A and W23L substitutions

<400> 12

Glu Pro Pro Leu Ser Gln Glu Ala Phe Ala Asp Leu Leu Lys Lys
1 5 10 15

<210> 13
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<223> Human p53 residues 11-24:E17K, T18A and S20A substitutions

<400> 13

Glu Pro Pro Leu Ser Gln Lys Ala Phe Ala Asp Leu Trp Lys Lys
1 5 10 15

<210> 14
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<223> Human p53 residues 11-24:L14Q, Q16L, T18A and S20A substitutions

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Glu Pro Pro Gln Ser Leu Glu Ala Phe Ala Asp Leu Trp Lys Lys
1 5 10 15

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<223> Human p53 residues 11-24:L14Q, T18A and S20A substitutions

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Glu Pro Pro Gln Ser Gln Glu Ala Phe Ala Asp Leu Trp Lys Lys
1 5 10 15

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<212> PRT
<213> Homo sapiens

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<223> Human p53 residues 11-24:S15T, T18A and S20A substitutions

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Glu Pro Pro Leu Thr Gln Glu Ala Phe Ala Asp Leu Trp Lys Lys
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<213> Homo sapiens

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1 5 10

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<212> PRT
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<223> Human p53 residues 13-24:L13P, S14E, T18A and S20A
substitutions

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Pro Glu Ser Gln Glu Ala Phe Ala Asp Leu Trp Lys Lys
1 5 10

<210> 20
<211> 15
<212> PRT
<213> Homo sapiens

<220>
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<223> Human p53 residues 11-24 with Q16E, E17Q, T18A and S20A substitutions

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Glu Pro Pro Leu Ser Glu Gln Ala Phe Ala Asp Leu Trp Lys Lys
1 5 10 15

<210> 21
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<213> Artificial Sequence

<220>
<223> DNA-PK assay negative control peptide

<400> 21

Glu Pro Pro Leu Ala Gln Glu Ala Phe Ala Asp Leu Trp Lys Lys
1 5 10 15

<210> 22
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<220>
<223> DNA-PK assay negative control peptide

<400> 22

Glu Pro Pro Leu Ala Gln Glu Thr Phe Ser Asp Leu Trp Lys Lys
1 5 10 15

<210> 23
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<223> DNA-PK assay negative control peptide

<400> 23

Pro Glu Ser Glu Gln Ala Phe Ala Asp Leu Trp Lys Lys
1 5 10

<210> 24
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<220>
<223> DNA-PK assay negative control peptide

<400> 24

Pro Glu Glu Ala Gln Glu Ala Phe Ala Asp Leu Trp Lys Lys
1 5 10

<210> 25
<211> 14
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<213> Artificial Sequence

<220>
<223> DNA-PK assay negative control peptide

<400> 25

Pro Glu Glu Ser Glu Gln Ala Phe Ala Asp Leu Trp Lys Lys
1 5 10

<210> 26
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Example of inappropriate DNA-PK negative control peptide

<400> 26

Pro Glu Glu Ala Gln Glu Thr Phe Ser Asp Leu Trp Lys Lys
1 5 10

<210> 27
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> DNA effector for in vitro DNA-PK assays

<400> 27
gcgcgcgcgc gcgcgcgcgc gcgc 24

<210> 28
<211> 19
<212> PRT
<213> Homo sapiens

<220>
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<223> Human p53 residues 92-108

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Pro Leu Ser Ser Ser Val Pro Ser Gln Lys Thr Tyr Gln Gly Ser Tyr
1 5 10 15

Gly Lys Lys

<210> 29
<211> 21
<212> PRT
<213> Homo sapiens

<220>
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<223> Human p53 residues 306-327

<400> 29

Ala Leu Pro Asn Asn Thr Ser Ser Ser Pro Gln Pro Lys Lys Lys Pro
1 5 10 15

Leu Asp Gly Glu Tyr
20

<210> 30
<211> 15
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<213> Homo sapiens

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<223> Human p53 residues 371-385

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Ser Lys Lys Gly Gln Ser Thr Ser Arg His Lys Lys Leu Met Phe
1 5 10 15

<210> 31
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His Lys Lys Leu Met Phe Lys Thr Glu Gly Pro Asp Ser Asp
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<223> Human p53 residues 11-24:Q16E, T18A and S20A substitutions

<400> 32

Glu Pro Pro Leu Ser Glu Glu Ala Phe Ala Asp Leu Trp Lys Lys
1 5 10 15

<210> 33
<211> 15
<212> PRT
<213> Homo sapiens

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<223> Human p53 residues 11-24:Q16N, T18A and S20A substitutions

<400> 33

Glu Pro Pro Leu Ser Asn Glu Ala Phe Ala Asp Leu Trp Lys Lys
1 5 10 15

<210> 34
<211> 15
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<213> Homo sapiens

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<223> Human p53 residues 11-24 with Q16Y, T18A, S20A and W23L substitutions

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Glu Pro Pro Leu Ser Tyr Glu Ala Phe Ala Asp Leu Leu Lys Lys
1 5 10 15

<210> 35
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Casein kinase I substrate

<400> 35

Asp Asp Asp Glu Glu Ser Ile Thr Arg Arg
1 5 10

<210> 36
<211> 8
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<220>
<223> Synthetic S6 kinase substrate

<400> 36

Arg Arg Leu Ser Ser Leu Arg Ala
1 5

<210> 37
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic casein kinase II substrate

<400> 37

Arg Arg Arg Glu Glu Glu Thr Glu Glu Glu
1 5 10

<210> 38
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<213> Artificial

<220>
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<223> peptide fragement

<400> 38

Ser Asp Leu Trp
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<210> 39
<211> 10
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<223> Synthetic casein kinase II substrate

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Arg Arg Arg Asp Asp Asp Ser Asp Asp Asp
1 5 10

<210> 40
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<223> human hsp90 residues 1-4

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<222> (5)..(17)
<223> human p53 residues 15-27 with S20E substitution

<400> 40

Met Pro Glu Glu Ser Gln Glu Thr Phe Glu Asp Leu Trp Lys Leu Leu
1 5 10 15

Pro

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<211> 4
<212> PRT

<213> Homo sapiens

<220>
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<223> human hsp90 residues 1-4

<400> 41

Met Pro Glu Glu
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<210> 42
<211> 13
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<213> Homo sapiens

<220>
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<223> human p53 residues 15 to 27 with S20E substitution

<400> 42

Ser Gln Glu Thr Phe Ser Asp Leu Trp Lys Leu Leu Pro
1 5 10

<210> 43
<211> 11
<212> PRT
<213> herpes simplex virus 1

<220>
<221> MISC_FEATURE
<223> HSV 1 glycoprotein D precursor residues 289-299

<400> 43

Glu Pro Glu Leu Ala Pro Glu Asp Pro Glu Asp
1 5 10

<210> 44
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus cleavage site of human adenovirus endoproteinase

<400> 44

Met Ser Gly Gly
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<210> 45
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic phosphorylation site segment

<400> 45

Met Pro Glu Glu Ser Gln Glu Thr Phe Glu Asp Leu Trp Lys Leu Leu
1 5 10 15

Pro Gly His His
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<210> 46
<211> 53
<212> DNA
<213> Artificial Sequence

<220>
<223> Sense strand oligonucleotide encoding DNA-PKphosphorylation segme
nt SEQ ID NO: 45

<400> 46
tatgcctgag gaaagtcagg agacattcga agatctatgg aaactacttc ctg 53

<210> 47
<211> 56
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide for phosphorylation site segment

<400> 47
gtgaccagga agtagtttcc atagatcttc gaatgtgtcc tgactttcct caggca 56

<210> 48
<211> 53
<212> DNA
<213> Artificial Sequence

<220>
<223> Sense primer sequence

<400> 48
gctctagaag tcgactttaa gaaggagata ccaagatgcc tgaggaaagt cag 53

<210> 49
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense primer with HSV epitope sequence

<400> 49
cgggatccta atcctcaggg tcttccgggg cgagctctgg ctgtgggttg attcttttttt 60

c 61

<210> 50
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<212> DNA
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<220>
<223> sense primer for substrate PCR

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catcaccatg gtatgagcgg cggcatggag gagcccagtg accttg 46

<210> 51
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<220>
<223> antisense primer for substrate PCR

<400> 51
cgggatccta atcctcgggg tcttccgggg cgagttctgg ctgtgggttg attcttttttt 60

c 61

<210> 52
<211> 8
<212> PRT
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<220>
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<400> 52

Glu Glu Ala Gln Glu Thr Phe Glu
1 5

<210> 53
<211> 25
<212> DNA

<213> Artificial Sequence

<220>
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tgaggaagcc caggagacat tcgaa 25

<210> 54
<211> 26
<212> DNA
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<220>
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gatcttcgaa tgtctcctgg gcttcc 26

<210> 55
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<220>
<223> Sense strand for negative control vector

<400> 55
tgaggagtct gagcagacat tcgaa 25

<210> 56
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<220>
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<400> 56
gatcttcgaa tgtctgctca gactcc 26

<210> 57
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<212> DNA
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<220>
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<400> 57
ctagctctag aggcgcgccc gggtaccgcg gccgcc 36

<210> 58
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tcgaggcggc cgcggtaccc gggcgcgcct ctagag 36

<210> 59
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<220>
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1 5 10 15

Gly Met Glu Glu Pro Ser Asp Leu Glu Glu Leu Glu Gln Phe Ala Lys
20 25 30

Thr Phe Lys Gln Arg Arg Ile Lys Leu Gly Phe Thr Gln Gly Asp Val
35 40 45

Gly Leu Ala Met Gly Lys Leu Tyr Gly Asn Asp Phe Ser Gln Thr Thr
50 55 60

Ile Ser Arg Phe Glu Ala Leu Asn Leu Ser Phe Lys Asn Met Cys Lys
65 70 75 80

Leu Lys Phe Leu Leu Glu Lys Trp Leu Asn Asp Ala Glu Asn Leu Ser
85 90 95

Ser Asp Ser Ser Leu Ser Ser Pro Ser Ala Leu Asn Ser Pro Gly Ile
100 105 110

Glu Gly Leu Ser Arg Arg Arg Lys Lys Arg Thr Ser Ile Glu Thr Asn
115 120 125

Ile Arg Val Leu Glu Lys Ser Phe Leu Glu Asn Gln Lys Pro Thr Ser
130 135 140

Glu Glu Ile Thr Met Ile Ala Asp Gln Leu Asn Met Glu Lys Glu Val
145 150 155 160

Ile Arg Val Trp Phe Cys Asn Arg Arg Gln Lys Glu Lys Arg Ile Asn
165 170 175

Pro

<210> 60
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<212> DNA
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<223> nucleotide sequence of pT7HPOU1

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tagaaattgc atcaacgcat atagcgctag cagcacgcca tagtgactgg cgatgctgtc 180

ggaatggacg atatcccgca agaggcccgg cagtaccggc ataaccaagc ctatgcctac 240

agcatccagg gtgacggtgc cgaggatgac gatgagcgca ttgttagatt tcatacacgg 300

tgcctgactg cgttagcaat ttaactgtga taaactaccg cattaaagct tatcgatgat 360

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aggttaatgt catgataata atggtttctt agacgtcagg tggcactttt cggggaaatg 480

tgcgcggaac ccctatttgt ttatttttct aaatacattc aaatatgtat ccgctcatga 540

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Gly Lys Leu Tyr Gly Asn Asp Phe Ser Gln Thr Thr Ile Ser Arg Phe
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Glu Ala Leu Asn Leu Ser Phe Lys Asn Met Cys Lys Leu Lys Pro Leu
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Leu Glu Lys Trp Leu Asn Asp Ala Glu Asn Leu Ser Ser Asp Ser Ser
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Leu Ser Ser Pro Ser Ala Leu Asn Ser Pro Gly Ile Glu Gly Leu Ser
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Thr Met Ile Ala Asp Gln Leu Asn Met Glu Lys Glu Val Ile Arg Val
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Lys Lys

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Lys Lys